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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,712	10/25/2006	Alan Daily	1456(03-22)	4686

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EXAMINER

BESLER, CHRISTOPHER JAMES

ART UNIT	PAPER NUMBER
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3726

NOTIFICATION DATE	DELIVERY MODE
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07/30/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/572,712	Applicant(s) DAILY ET AL.	
	Examiner CHRISTOPHER BESLER	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/15/2006, 3/20/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 9 and 16 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaiser (U.S. Patent Application Publication Number 2003/0181302) in view of Hart (U.S. Patent Number 5,989,170).

4. As to claim 1, Kaiser teaches a refractory roll cover for a pulling roll used in the production of glass sheet (abstract) comprising: a contacting segment adapted to

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contact the glass sheet (figure 6, elements 33 and 15; page 1, paragraph 14), comprising: a low dusting millboard (pages 1 and 3, paragraphs 14 and 57); a rigid segment providing mechanical support for the contacting segment (figure 6, elements 25 and 31; pages 1, paragraph 14). However, Kaiser does not teach the material for the rigid segment. Hart teaches a refractory roll cover capable of being used for a pulling roll in the production of glass sheet (abstract; column 14, lines 15 - 21), comprising: a contacting segment adapted to contact a load (figure 2, element 17; column 7, lines 62 – 66); and a rigid segment providing mechanical support for the contacting segment (figure 2, element 16; column 7, lines 58 – 60). Specifically, Hart teaches the rigid segment comprising of a rigidized compressed fiber (column 7, lines 58 - 60). It would have been obvious to one skilled in the to form the rigid segments of Kaiser from a rigidized compressed fiber, as taught by Hart, because Hart teaches that the use of such material will allow for a supporting rigid segment which will not fail during high heat applications (column 3, lines 5 - 9), such as glass sheet production.

5. As to claim 2, Kaiser teaches the millboard comprising of clay and mica (figure 6, elements 15 and 33; pages 1 and 3, paragraphs 14 and 57).

6. As to claim 3, Hart teaches the rigid segment comprising a sealed surface, thereby reducing dusting of the rigid segment (figure 2, element 19; column 8, lines 2 – 4).

7. As to claim 4, Kaiser teaches the rigid segment comprising a shoulder adjacent to the contacting segment, thereby improving mechanical support for the contacting segment (figure 6, elements 25 and 31; pages 1 and 3, paragraphs 14 and 52).

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8. As to claim 5, Kaiser teaches the contacting segment comprising an inclined edge that transitions into the shoulder, whereby a discontinuity with the rigid segment is reduced (figure 6, element 29; page 3, paragraph 48).

9. As to claim 6, Kaiser teaches the rigid segment being positioned between at least two contacting segments (figure 6, elements 31 and 33).

10. As to claim 7, Kaiser teaches the contacting segment being positioned between at least two rigid segments (figure 6, elements 33, 31, and 25).

11. As to claim 8, Kaiser teaches two contracting segments separate the rigid segment (figure 6, elements 33 and 31) and bound by at least two additional rigid segments (figure 6, elements 33 and 25).

12. As to claim 9, Kaiser teaches the contacting segment having a larger external diameter than the rigid segment, whereby the glass sheet avoids contact with the rigid segment (figure 6, elements 27, 31, and 25).

13. As to claim 16, Kaiser teaches a refractory roll cover for a pulling roll used in the production of glass sheet (abstract) comprising: at least one contacting segment comprising a low dusting millboard (figure 6, elements 33 and 15; pages 1 and 3, paragraphs 14 and 57), a plurality of rigid segments (figure 6, elements 25 and 31; page 1, paragraph 14), the rigid segment sandwiching and mechanically supporting the contacting segment (figure 6, elements 33, 25, and 31; pages 1 and 3, paragraphs 14 and 52), the contacting segment having a larger external diameter than the rigid segment, whereby the glass sheet avoids contact with the rigid segment (figure 6, element 27). However, Kaiser does not teach the material for the rigid segment. Hart

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teaches a refractory roll cover capable of being used for a pulling roll in the production of glass sheet (abstract; column 14, lines 15 - 21), comprising: a contacting segment adapted to contact a load (figure 2, element 17; column 7, lines 62 – 66); and a rigid segment providing mechanical support for the contacting segment (figure 2, element 16; column 7, lines 58 – 60). Specifically, Hart teaches the rigid segment comprising of a rigidized compressed fiber (column 7, lines 58 - 60). It would have been obvious to one skilled in the to form the rigid segments of Kaiser from a rigidized compressed fiber, as taught by Hart, because Hart teaches that the use of such material will allow for a supporting rigid segment which will not fail during high heat applications (column 3, lines 5 - 9), such as glass sheet production.

14. As to claim 17, Kaiser teaches the rigid segment comprising a shoulder adjacent to the contacting segment, thereby improving mechanical support for the contacting segment (figure 6, elements 33, 25, and 31; page 3, paragraph 52).

15. As to claim 18, Kaiser teaches the contacting segment comprising an inclined edge that transitions into the shoulder, whereby a discontinuity with the rigid segment is reduced (figure 6, element 26; page 3, paragraph 48).

16. Claims 11 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaiser in view of Hart and Sukenik (U.S. Patent Number 4,352,230).

17. As to claim 15, Kaiser teaches a refractory pulling roll for the production of glass sheet (abstract), comprising: a roll cover comprising at least one contacting segment (figure 6, elements 33 and 15; page 1, paragraph 14) between a plurality of rigid segments (figure 6, elements 25 and 31; page 1, paragraph 14), the contacting segment

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adapted to contact the glass sheet and comprising a low dusting millboard (figure 6, elements 33 and 15; pages 1 and 3, paragraphs 14 and 57), and the rigid segments providing mechanical support for the contacting segment (figure 6, elements 25 and 31; pages 1 and 3, paragraphs 14 and 52). However, Kaiser does not teach the material for the rigid segment. Hart teaches a refractory roll cover capable of being used for a pulling roll in the production of glass sheet (abstract; column 14, lines 15 - 21), comprising: a contacting segment adapted to contact a load (figure 2, element 17; column 7, lines 62 – 66); and a rigid segment providing mechanical support for the contacting segment (figure 2, element 16; column 7, lines 58 – 60). Specifically, Hart teaches the rigid segment comprising of a rigidized compressed fiber (column 7, lines 58 - 60). It would have been obvious to one skilled in the to form the rigid segments of Kaiser from a rigidized compressed fiber, as taught by Hart, because Hart teaches that the use of such material will allow for a supporting rigid segment which will not fail during high heat applications (column 3, lines 5 - 9), such as glass sheet production. Kaiser also does not teach either an end plate or compressive spring. Sukenik teaches a refractory pulling roll for the production of a glass sheet (column 1, lines 7 – 11); comprising: a roll cover comprising at least one contacting segment (figures 3 and 4, element 25; column 4, lines 31 – 34) between a plurality of rigid segments (figure 4, element 28; column 4, lines 58 – 60). Sukenik further teaches a plurality of end plates adjacent to ends of the roll cover (figure 4, elements 39 and 41; column 5, lines 26 – 28); and a compressive spring between at least one end plate and the roll cover, whereby a compressive force is exerted on the roll cover (figure 4, element 42; column

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5, lines 28 – 30). It would have been obvious to one skilled in the art secure the roll cover, as taught by Kaiser, through the use of a compressive spring, as taught by Sukenik because during the high heat process of glass production, the contacting and rigid segments of Kaiser will naturally tend to expand, and Sukenik teaches that the securing the ring via a spring will allow for such expansion while still securing the roll (column 5, lines 43 – 46).

18. As to claim 11, Kiaser teaches the rigid segment having at least one end (figure 6, element 25) and a compression ring adjacent to the end which cooperates with the pulling roll to maintain compression on the rigid segment (figure 4, element 21; pages 2 and 3, paragraphs 44 and 52). Examiner notes that a compression ring is not expressly illustrated in the embodiment of figure 6. However, such a ring is taught in that embodiment on page 3, paragraph 52, and stating “two inner collars are affixed to shaft using, for example, split retaining rings of the type discussed above.”

19. As to claim 12, Kiaser teaches the rigid segment having two ends (figure 6, element 25) and a compression ring at each end of the rigid segment (figure 4, element 21; pages 2 and 3, paragraphs 44 and 52).

20. As to claim 13, Kiaser teaches the compression ring comprising a split ring (figure 4, element 21; pages 2 and 3, paragraphs 44 and 52).

21. As to claim 14, Kaiser teaches the rigid segment is positioned between at least two contracting segments (figure 6, elements 31 and 33).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER BESLER whose telephone number is

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(571)270-5331. The examiner can normally be reached on 7:30 - 5:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER BESLER/
Examiner, Art Unit 3726

/DAVID P. BRYANT/
Supervisory Patent Examiner, Art Unit 3726